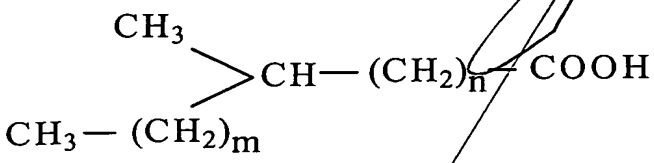
**Claims:**

1. A method of treating cancer comprising administering to a cancer patient in need thereof an effective amount of at least one terminally methyl-branched iso- or anteiso-unsaturated fatty acid, or a pharmaceutically acceptable salt or derivative thereof, wherein the fatty acid has the formula $R_0COOH$, wherein $R_0$ represents a terminally methyl-branched iso or anteiso unsaturated fatty group.

2. The method of claim 1, wherein the portion of $R_0$ other than the terminally-methyl branched iso- or anteiso- moiety is linear or branched.

3. The method of claim 1, wherein the terminally methyl-branched iso- and anteiso-unsaturated fatty acids have the following formula (I):



(I)

where m is 0 or 1, and n is an integer between 7 and 16 inclusive, and at least one $CH_2$-$CH_2$ group in $(CH_2)_n$ is replaced with a CH=CH group.

4. The method of Claim 1, wherein the terminally methyl-branched iso- or anteiso-unsaturated fatty acid, salt or derivative thereof, is obtained by isolation from fermentation or incubation products using a bacteria strain containing said branched-chain fatty acid.

5. The method of Claim 4, wherein the bacteria strain is from a genus selected from the group consisting of *Stenotrophomonas, Xanthomonas, Flavobacterium, Capnocytophaga, Altermonas, Cytophage, Bacillus, Chryseobacterium, Empdobacter,*

*Aurebacterium, Sphinggobacterium, Staphylococcus, Azotobacter and Pseudomonas.*

6. The method of Claim 5, wherein the bacterial strain is *Stenotrophomonas maltophilia.*

7. The method of Claim 6, wherein said bacterial strain is assigned ATCC 202105.

8. The method of Claim 1, wherein $R_0$ represents a terminally methyl-branched iso-unsaturated fatty group, and the terminally methyl-branched iso- unsaturated fatty acid, salt or derivative thereof, is obtained by chemical synthesis.

9. The method of Claim 1, wherein the terminally methyl-branched iso- or anteiso-unsaturated fatty acid, salt or derivative thereof, is obtained by extraction from natural materials.

10. The method of Claim 1, wherein the terminally methyl-branched iso- or anteiso-unsaturated fatty acid is 15-methylhexadecenoic acid (iso 17:1 ω9c).

11. (Deleted)

12. The method of Claim 1, wherein the cancer treated is selected from the group consisting of leukemia, tongue cancer, colorectal cancer, breast cancer, prostate cancer, lung

cancer, gastric cancer, hepatocarcinoma, melanocarcinoma, renal cancer, esophagus cancer, pancreas cancer and skin cancers.

13. The method of Claim 1, wherein the terminally methyl-branched iso- or anteiso-unsaturated fatty acid, salt or derivative thereof, is administered as part of a fermentation product also containing a nutritive medium.

14. The method of Claim 13, wherein the nutritive medium comprises a soybean medium.

15. The method of Claim 14, wherein the soybean medium has the following formula:

| | |
|---|---|
| Soybean | 5-10 % |
| or soybean milk or bean cake (by soybean wt.) | 5-15 % |
| Yeast extract | 0.02-0.5 % |
| or yeast powder | 0.02-0.5 % |
| $CaCO_3$ | 0.05-0.25 % |
| $K_2HPO_4$ | 0.02-0.10 % |
| $MgSO_4$ | 0.01-0.05 % |
| NaCl | 0.01-0.04 % |
| $Na_2MoO_4$ | 5.0-30ppm |
| $ZnSO_4$ | 2.5-15ppm |
| $CoCl_2$ | 5.0-20ppm. |

16. The method of Claim 15, wherein the fermentation product is obtained from a culture of *Stenotrophomonas maltophilia* assigned ATCC 202105.

17. The method of Claim 1, wherein the terminally methyl-branched iso- or anteiso-unsaturated fatty acid, salt or derivative thereof, is administered in the form of liquid, powder,

capsule, tablet, injection, or encapsulated liposome, or topically applied in the form of a cream, ointment, or lotion.

18. The method of Claim 1, wherein the terminally methyl-branched iso- or anteiso-unsaturated fatty acid is administered in the form of a pharmaceutically acceptable salt or derivative thereof.

19. A method of enhancing the treatment of cancer patients undergoing chemotherapy or radiotherapy comprising administering to a patient in need thereof an effective amount of at least one terminally methyl-branched iso- or anteiso-fatty acid, or a pharmaceutically acceptable salt or derivative thereof, wherein the fatty acid has the formula $R_0COOH$, wherein $R_0$ represents a terminally methyl-branched iso or anteiso fatty group.

20. The method of Claim 19, wherein the patient is undergoing chemotherapy and at least one of the following symptoms is treated: alleviation of the low leukocyte count and the hemoglobin concentration which is decreased after treatment, and protection of the hepatic and the renal functions.

21. The method of Claim 19, wherein the patient is undergoing radiotherapy, and at least one of the following symptoms is treated: amelioration of the deficiency syndrome and increase of the serum IgG level.

22. A method of treating a skin disease comprising administering to a subject in need thereof an effective amount of at least one terminally methyl-branched iso- or anteiso-fatty acid, or a pharmaceutically acceptable salt or derivative thereof, wherein the fatty acid has the formula $R_0COOH$, wherein $R_0$ represents a terminally methyl-branched iso or anteiso fatty group.

23. A method of making a terminally methyl-branched iso- or anteiso-fatty acid,

hemoglobin concentration which is decreased after treatment, and protection of the hepatic and the renal functions.

21. The method of Claim 19, wherein the patient is undergoing radiotherapy, and at least one of the following symptoms is treated: amelioration of the deficiency syndrome and increase of the serum IgG level.

22. A method of treating a skin disease comprising administering to a subject in need thereof an effective amount of at least one terminally methyl-branched iso- or anteiso-fatty acid, or a pharmaceutically acceptable salt or derivative thereof, wherein the fatty acid has the formula $R_0COOH$, wherein $R_0$ represents a terminally methyl-branched iso or anteiso fatty group.

23. A method of making a terminally methyl-branched iso- or anteiso-fatty acid, or a mixture of said fatty acids, which comprises culturing a bacteria strain containing said fatty acid(s) to form a fermentation solution containing said fatty acid(s), and then isolating said fatty acid(s), from the fermentation solution.

24. The method of claim 23, wherein the culture medium comprises a soybean medium.

25. The method of Claim 23, wherein the soybean medium has the following formula:

| | |
|---|---|
| Soybean | 5-10 % |
| or soybean milk or bean cake (by soybean wt.) | 5-15 % |
| Yeast extract | 0.02-0.5 % |
| or yeast powder | 0.02-0.5 % |
| $CaCO_3$ | 0.05-0.25 % |
| $K_2HPO_4$ | 0.02-0.10 % |
| $MgSO_4$ | 0.01-0.05 % |
| NaCl | 0.01-0.04 % |
| $Na_2MoO_4$ | 5.0-30ppm |
| $ZnSO_4$ | 2.5-15ppm |
| $CoCl_2$ | 5.0-20ppm. |

26. The method of Claim 23, wherein the bacteria strain is from a genus selected from the group consisting of *Stenotrophomonas, Xanthomonas, Flavobacterium, Capnocytophaga, Altermonas, Cytophage, Bacillus, Chryseobacterium, Empdobacter, Aurebacterium, Sphinggobacterium, Staphylococcus, Azotobacter and Pseudomonas.*

27. The method of Claim 26, wherein the bacterial strain is *Stenotrophomonas maltophilia.*

28. The method of Claim 27, wherein said bacterial strain is assigned ATCC 202105.

29. A method of making a fermentation solution containing at least one terminally methyl-branched iso- or anteiso-fatty acid, which comprises culturing a bacteria strain containing said fatty acid in a nutritive medium to form a fermentation solution containing said fatty acid.

30. The method of Claim 29, wherein the nutritive medium comprising a soybean medium.

31. The method of Claim 30, wherein the soybean medium has the following formula:

| | |
|---|---|
| Soybean | 5-10 % |
| or soybean milk or bean cake (by soybean wt.) | 5-15 % |
| Yeast extract | 0.02-0.5 % |
| or yeast powder | 0.02-0.5 % |
| $CaCO_3$ | 0.05-0.25 % |
| $K_2HPO_4$ | 0.02-0.10 % |
| $MgSO_4$ | 0.01-0.05 % |
| NaCl | 0.01-0.04 % |
| $Na_2MoO_4$ | 5.0-30ppm |
| $ZnSO_4$ | 2.5-15ppm |
| $CoCl_2$ | 5.0-20ppm. |

32. The method of Claim 29, wherein the bacteria strain is from a genus selected from

*Aurebacterium, Sphinggobacterium, Staphylococcus, Azotobacter and Pseudomonas.*

33. The method of Claim 32, wherein the bacterial strain is *Stenotrophomonas maltophilia.*

34. The method of Claim 33, wherein said bacterial strain is assigned ATCC 202105.

35. A product made by the method of Claim 29.

36. A product made by the method of Claim 30.

37. A product made by the method of Claim 31.

38. A product made by the method of Claim 32.

39. A product made by the method of Claim 33.

40. A product made by the method of Claim 34.

41. A composition comprising an effective amount for preventing cancer, or treating skin disease, or providing an antiaging effect, or providing immune boosting, of at least one terminally methyl-branched iso- or anteiso-fatty acid, or a pharmaceutically acceptable salt or derivative thereof, and a pharmaceutically acceptable carrier, wherein the fatty acid has the formula $R_0COOH$, wherein $R_0$ represents a terminally methyl-branched iso or anteiso fatty group.

42. The composition of Claim 41, wherein the composition is in the form of a liquid, powder, capsule, tablet, injection, or encapsulated with liposome, or topically applied

in the form of a cream, ointment, or lotion.

43. (Deleted)

44. (Deleted)

45. (Deleted)

46. The method of Claim 1, wherein the effective amount is an amount effective to induce apoptosis of cancer cells.

47. A method of immune boosting comprising administering to a subject in need thereof an effective amount of at least terminally methyl-branched iso- or anteiso-fatty acid, or a pharmaceutically acceptable salt or derivative thereof, wherein the fatty acid has the formula $R_0COOH$, wherein $R_0$ represents a terminally methyl-branched iso or anteiso fatty group.

48. A method of prolonging aging comprising administering to a subject in need

thereof an antiaging effective amount of at least one terminally methyl-branched iso- or anteiso-fatty acid, or a pharmaceutically acceptable salt or derivative thereof, wherein the fatty acid has the formula $R_0COOH$, wherein $R_0$ represents a terminally methyl-branched iso or anteiso fatty group.

49. A method of preventing cancer comprising administering to a subject in need thereof an effective amount of at least one terminally methyl-branched iso- or anteiso-fatty acid, or a pharmaceutically acceptable salt or derivative thereof, wherein the fatty acid has the formula $R_0COOH$, wherein $R_0$ represents a terminally methyl-branched iso or anteiso fatty group.

50. The method of Claim 49, where the cancer is skin cancer or mammary cancer.

51. (Deleted)

52. A terminally methyl-branched iso- or anteiso-fatty acid derivative, wherein the fatty acid has the formula $R_0COOH$, wherein $R_0$ represents a terminally methyl-branched iso or anteiso fatty group, and wherein said fatty acid derivative has anticancer activity, selected from the following compounds:

(1) $R_0CO$-A, wherein A represents one of the following groups: